इंटरनेट मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”
Mazdoor Kisan Shakti Sangathan
“The Right to Information, The Right to Live”

“पुराने को छोड नये के तरफ”
Jawaharlal Nehru
“Step Out From the Old to the New”

IS 10509 (1983): Dead Spindles Used on Jute Spinning Frames
[TXD 14: Machinery for Fabric Manufacture]

“ज्ञान से एक नये भारत का निर्माण”
Satyanarayan Gangaram Pitroda
“Invent a New India Using Knowledge”

Act Number 22 of 2005
The Indian Parliament
RIGHT TO INFORMATION

Made Available By
Public.Resource.Org

“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”
Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE

BRUTUM FULMEN

IGNORANTIA JURIS NON EXCUSAT

PROTECTED BY COPYRIGHT

IS : 10509 - 1983

(Reaffirmed 2000)

Indian Standard

SPECIFICATION FOR DEAD SPINDLES USED ON JUTE SPINNING FRAMES

UDC 677·052·932

© *Copyright* 1983

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 2

June 1983

Indian Standard

SPECIFICATION FOR DEAD SPINDLES USED ON JUTE SPINNING FRAMES

Jute Mill Accessories and Jute Machinery Spare Parts Sectional Committee, TDC 17

Chairman	*Representing*
DR B. L. BANERJEE	Indian Jute Industries' Research Association, Calcutta
Members	
SHRI D. P. KHATUA (*Alternate* to Dr B. L. Banerjee)	
SHRI A. K. BANERJEE	Britannia Engineering Co Ltd, Titagarh
SHRI R. P. CHATTERJEE (*Alternate*)	
SHRI B. N. BASU	Office of the Jute Commissioner, Calcutta
SHRI H. N. GHOSH	Indian Jute Mills Association, Calcutta
SHRI R. N. THAKAR (*Alternate*)	
SHRI O. P. GOENKA	Textile Machinery Manufacturers Association, Bombay; *and* Swadeshi Jute Machinery Corporation Ltd, Calcutta
SHRI S. P. GOYAL	Association of Merchants & Manufacturers of Textile Stores & Machinery (India), Bombay
SHRI D. GUPTA	Jute Manufacturers Development Council, Calcutta; *and* New Central Jute Mills Co Ltd, Calcutta
SHRI T. K. ROYCHOWDHURY (*Alternate*)	New Central Jute Mills Co Ltd, Calcutta
SHRI D. S. JAIN	Shalimar Group Private Ltd, Howrah
SHRI S. K. GHOSH (*Alternate*)	
SHRI I. K. KEJRIWAL	Development Council for Textile Machinery Industry, Bombay
MAJ-GEN R. N. SEN (*Alternate* I)	
SHRI K. K. CHATTERJEE (*Alternate* II)	
SHRI K. M. MODI	Indian Pin Manufacturing Co, Calcutta
SHRI S. G. SODHANI (*Alternate*)	
SHRI P. C. MOHUNTA	Birla Jute Manufacturing Co Ltd, Calcutta
SHRI SITA RAM PODDAR	Hindustan Bobbin Industries, Calcutta
SHRI A. N. SARKAR	Braithwaite & Co Limited, Calcutta
SHRI G. C. CHATTERJEE (*Alternate*)	
MAJ-GEN R. N. SEN	The Lagan Jute Machinery Co Ltd, Calcutta
SHRI P. K. BOSE (*Alternate*)	
SHRI S. N. SHARMA	*Forest Research Institute & Colleges, Dehra Dun*
SHRI S. M. TEWARI	Thomas Duff & Co (India) Ltd, Calcutta
SHRI S. M. CHAKRABORTY, Director (Tex) (*Secretary*)	Director General, ISI (*Ex-officio Member*)

(*Continued on page* 2)

© *Copyright* 1983
INDIAN STANDARDS INSTITUTION
This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(*Continued from page* 1)

Jute Mill Accessories and Jute Machinery Spare Parts Subcommittee, TDC 17 : 2

Convener	
DR B. L. BANERJEE	Indian Jute Industries' Research Association, Calcutta
Members	
SHRI A. K. BANERJEE	Britannia Engineering Co Ltd, Titagarh
SHRI R. P. CHATTERJEE (*Alternate*)	
SHRI B. N. BASU	Office of the Jute Commissioner, Calcutta
SHRI A. N. BISWAS	Guest, Keen, Williams Ltd, Howrah
SHRI I. CHAKRABORTI (*Alternate*)	
SHRI O. P. GOENKA	Swadeshi Jute Machinery Corporation Ltd, Calcutta
SHRI A. K. GUPTA	New Central Jute Mills Co Ltd, Calcutta
SHRI D. GUPTA	Jute Manufactures Development Council, Calcutta
SHRI D. S. JAIN	Shalimar Group Private Ltd, Howrah
SHRI S. K. GHOSH (*Alternate*)	
SHRI D. P. KHATUA	Indian Jute Industries' Research Association, Calcutta
SHRI S. K. NEOGI (*Alternate*)	
MAJ-GEN R. N. SEN	The Lagan Jute Machinery Co Ltd, Calcutta
SHRI P. K. BOSE (*Alternate*)	
SHRI R. N. THAKAR	Indian Jute Mills Association, Calcutta

Indian Standard

SPECIFICATION FOR DEAD SPINDLES USED ON JUTE SPINNING FRAMES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 28 February 1983, after the draft finalized by the Jute Mill Accessories and Jute Machinery Spare Parts Sectional Committee had been approved by the Textile Division Council.

0.2 The present condition of jute industry cannot afford to accept various sizes of a machine part which needs replacement due to wear and tear. This standard is expected to prevent mushroom growth of varieties of the spindles for the benefit of the industry.

0.3 The Standards of Weights and Measures Act, 1976 stipulates use of the International System of Units in the country; in order to familiarize the industry with this system, the recommended SI units for use in the textile industry are given in Appendix A.

---

1. SCOPE

1.1 This standard specifies requirements for dead spindles used on jute spinning frames.

2. TYPES

2.1 The spindles shall be either of the following two types. The type 2 shall be of two sizes:

Type 1 Solid spindle-145 mm lift, used on 108 mm pitch slip — draft spinning frame

Type 2 Hollow spindle

- a) 165 mm lift, used on 108 mm pitch apron — draft spinning frame
- b) 190 mm lift; used on 140 mm pitch slip-draft spinning frame

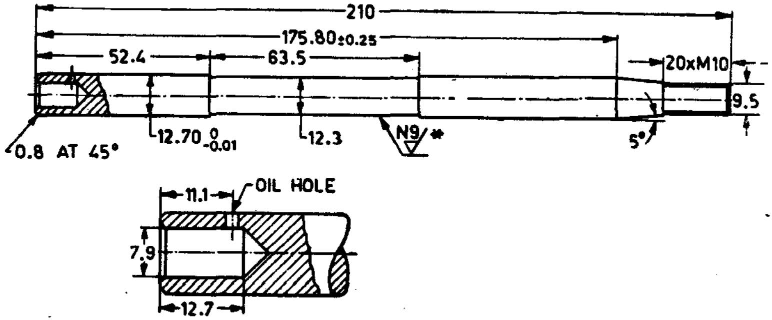
3. MATERIAL

3.1 Any of the following steels shall be used in the manufacture of the spindles:

Medium carbon steel	Conforming to the Designation 40C8 of IS : 1570 (Part II)-1979*
Low carbon steel	Conforming to designation 10C 4 or 14C6 of IS : 1570 (Part II)-1979*

4. REQUIREMENTS

4.1 Shape and Dimensions — The solid dead spindles shall conform to the shape and dimensions given in Fig. 1 and the hollow spindles to those given in Fig. 2.



*See IS : 3075-1965 Dimensions for circlips.

All dimensions in millimetres.

Fig. Type I Solid Dead Spindle

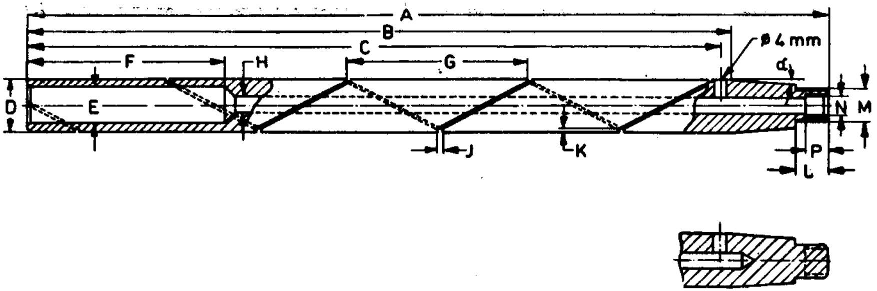
4.1.1 The dimensions of spindles for which the tolerances are not shown in figures shall be subject to medium class deviations specified in IS : 2102 (Part I)-1980† except dimension 'H' of hollow spindle which shall be subject to extra coarse class deviation.

4.2 Hardness — The spindles, if made of medium carbon steel, shall be hardened and tempered to 40-45 HRC; and if made on low carbon steel, shall be carburized and hardened to 55-60 HRC with the depth of hardness 1 to 1·5 mm.

---

*Schedules for wrought steels: Part II Carbon steels (unalloyed steels) (*first revision*).

†General tolerances for dimensions and form and position : Part I General tolerances for linear and angular dimensions (*second revision*).



Size	Lift	Pitch	DIMENSIONS														
			A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*J*	*K*	*L*	*M*	*N*	α	*P*
1	165	108	243	213	210	15·78	11·1	60	55	4·5	1·2	0·8	10	M10	M4	4°	7
2	190	140	276	242	239	18·95	13·1	70	55	4·5	1·2	0·8	13	M12	M6	4°	9

All dimensions in millimetres.

FIG. 2 TYPE 2 HOLLOW DEAD SPINDLE

4.3 Trueness — The total indicated reading (TIR) shall not exceed 0·03 mm when tested for perpendicularity as explained in **8.8** of SP 13-1976*.

5. PACKING AND MARKING

5.1 Each spindle shall be punched with its lift (mm).

5.2 The spindles shall be packed as required by the purchaser, ensuring complete protection from rust.

5.3 Each package shall be marked with the following:

a) Name of the material,
b) Lift (mm) of spindles,
c) Pitch (mm) of spinning frame the spindles are suitable for,
d) Type of drafting the spindles are suitable for,
e) Number of spindles in the package,
f) Name/trade-mark of the manufacturer, and
g) Year of manufacture.

5.3.1 The spindles may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. SAMPLING

6.1 Unless otherwise agreed to between the buyer and the seller, for inspection of dimensions, hardness and trueness, the single sampling plan with Inspection Level I and Acceptable Quality Level (AQL) of 2·5 percent given in Tables 1 and 2 of IS : 2500 (Part I)-1973† shall be followed.

---

*Guide to the principles of geometrical tolerancing.

†Sampling inspection tables : Part I Inspection by attributes and by count of defects (*first revision*).

APPENDIX A

(*Clause* 0.3)

RECOMMENDED SI UNITS FOR TEXTILES

SL No.	CHARACTERISTIC	SI UNIT(S)		APPLICATION
		Unit(s)	Abbreviation(s)	
(1)	(2)	(3)	(4)	(5)
1)	Length	Millimetre	mm	Fibres
		Millimetre, centimetre	mm, cm	Samples, test specimens (as appropriate)
		Metre	m	Yarns, ropes, cordage, fabrics
2)	Width	Millimetre	mm	Narrow fabrics
		Centimetre	cm	Other fabrics
		Millimetre, centimetre	mm, cm	Samples, test specimens (as appropriate)
				Carpets, druggets, *DURRIES* (as appropriate)
3)	Thickness	Micrometre (micron)	µm	Delicate fabrics
		Millimetre	mm	Other fabrics, carpets, felts
4)	Linear density	**Tex**	**tex**	**Yarns**
		Millitex	mtex	Fibres
		Decitex	dtex	Filaments, filament yarns
		Kilotex	ktex	Slivers, ropes, cordage
5)	Diameter	Micrometre (micron)	µm	Fibres
		Millimetre	mm	Yarns, ropes, cordage
6)	Circumference	Millimetre	mm	Ropes, cordage
7)	Threads in fabric:			Woven fabrics (as appropriate)
	a) Lengthwise	Number per centimetre	ends/cm	
		Number per decimetre	ends/dm	
	b) Widthwise	Number per centimetre	picks/cm	
		Number per decimetre	picks/dm	
8)	Warp threads in loom	Number per centimetre	ends/cm	Reeds
9)	Stitches in knitted fabric:			Knitted fabrics (as appropriate)
	a) Lengthwise	Courses per centimetre	courses/cm	
		Courses per decimetre	courses/dm	
	b) Widthwise	Wales per centimetre	wales/cm	
		Wales per decimetre	wales/dm	

SL No.	CHARACTERISTIC	SI UNIT(S)		APPLICATION
		Unit(s)	Abbreviation(s)	
(1)	(2)	(3)	(4)	(5)
10)	Stitch length	Millimetre	mm	Knitted fabrics, made-up items
11)	Mass per unit area	Grams per square metre	g/m^2	Fabrics
12)	Mass per unit length	Grams per metre	g/m	Fabrics
13)	Twist	Turns per centimetre	turns/cm	Yarns, ropes, cordage (as appropriate)
		Turns per metre	turns/m	
14)	Test or gauge length	Millimetre, centimetre	mm, cm	Fibre, yarn and fabric specimens (as appropriate)
15)	Breaking load	Millinewton	mN	Fibres, delicate yarns (individual or skeins)
		Newton	N	Strong yarns (individual or skeins), ropes, cordage, fabrics
16)	Breaking length	Kilometre	km	Yarns
17)	Tenacity	Millinewton per tex	mN/tex	Fibres, yarns (individual or skeins)
18)	Twist factor or twist multiplier	Turns per centimetre × square root of tex	$\text{turns/cm} \times \sqrt{\text{tex}}$	Yarns (as appropriate)
		Turns per metre × square root of tex	$\text{turns/m} \times \sqrt{\text{tex}}$	
19)	Bursting strength	Newton per square centimetre	N/cm^2	Fabrics
20)	Tear strength	Millinewton, Newton	mN N	Fabrics (as appropriate)
21)	Pile height	Millimetre	mm	Carpets
22)	Pile density	Mass of pile yarn in grams per square metre per millimetre pile height	$g/m^2/mm$ pile height	Pile carpets
23)	Elastic modulus	Millinewton per tex per unit deformation	mN/tex/unit deformation	Fibres, yarns, strands